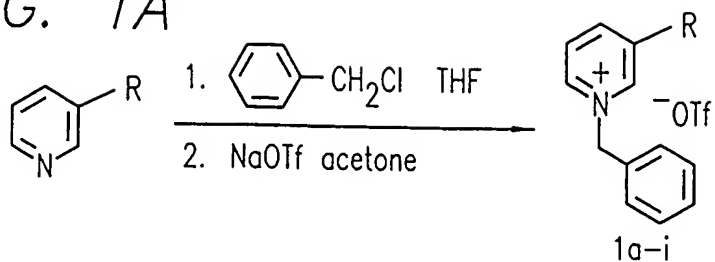


FIG. 1A



R = $-\text{C}(\text{O})\text{NH}_2$ (1a);
 $-\text{C}(\text{O})\text{NHCH}_3$ (1b);
 $-\text{C}(\text{O})\text{N}(\text{C}_2\text{H}_5)_2$ (1c);
 $-\text{C}(\text{S})\text{NH}_2$ (1d);
 $-\text{C}(\text{O})\text{CH}_3$ (1e);
 $-\text{C}(\text{O})\text{CCH}_3$ (1f);
 $-\text{CN}$ (1g);
 $-\text{CH}_3$ (1h);
 $-\text{H}$ (1i)

FIG. 1B

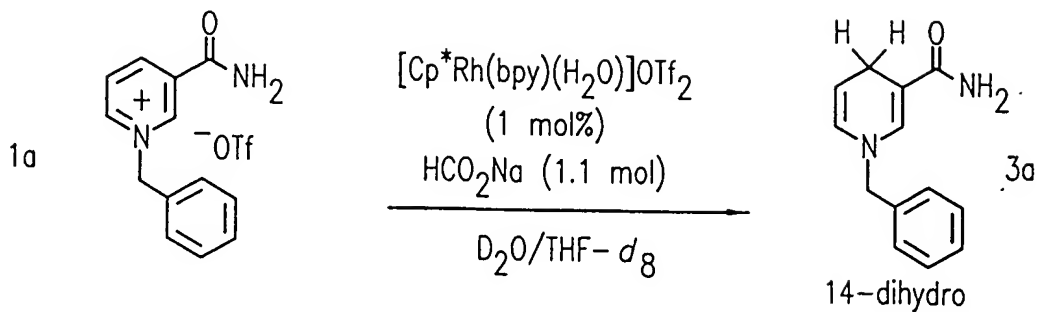
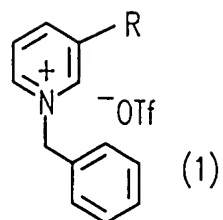


FIG. 1C



substrate	R	relative rate ^A	turnover/h ^B
1a		1.0	8
1b		0.9	8
1c		0.0	0
1d		1.3	11
1e		1.1	9
1f		1.3	11
1g	-CN	0.9	8
1h	-CH ₃	0.0	0
1i	-H	0.0	0

FIG. 2A

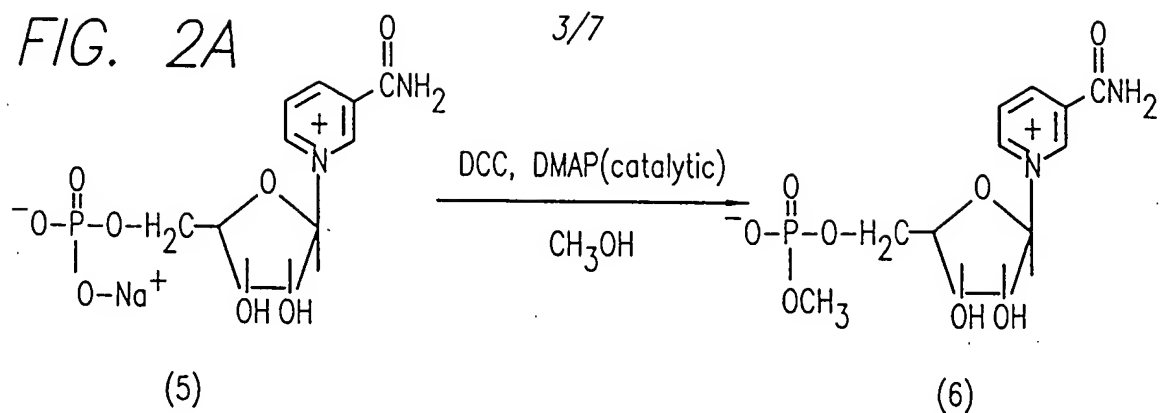


FIG. 2B

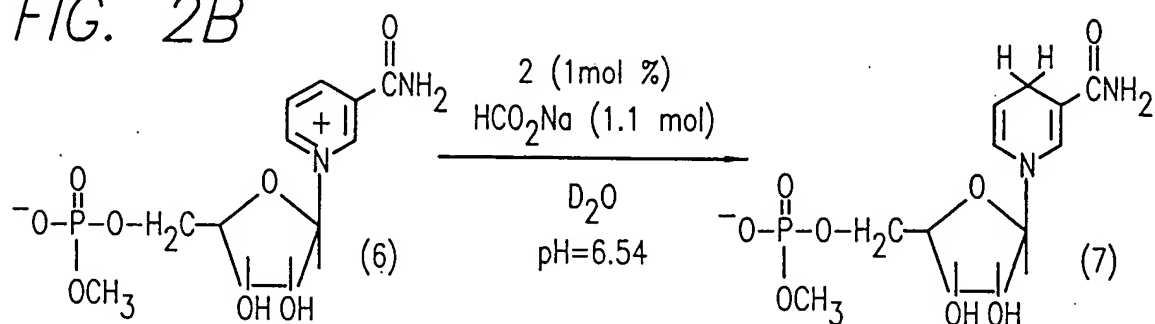
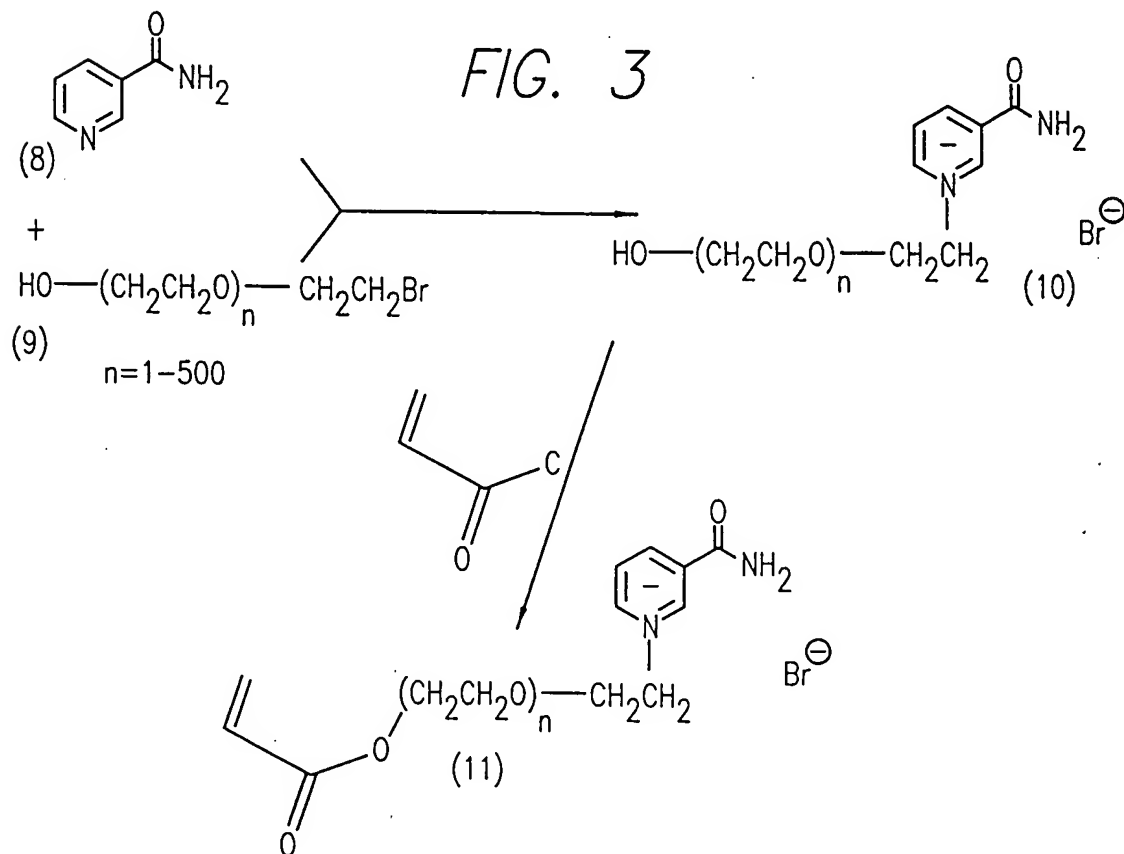


FIG. 3



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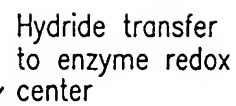
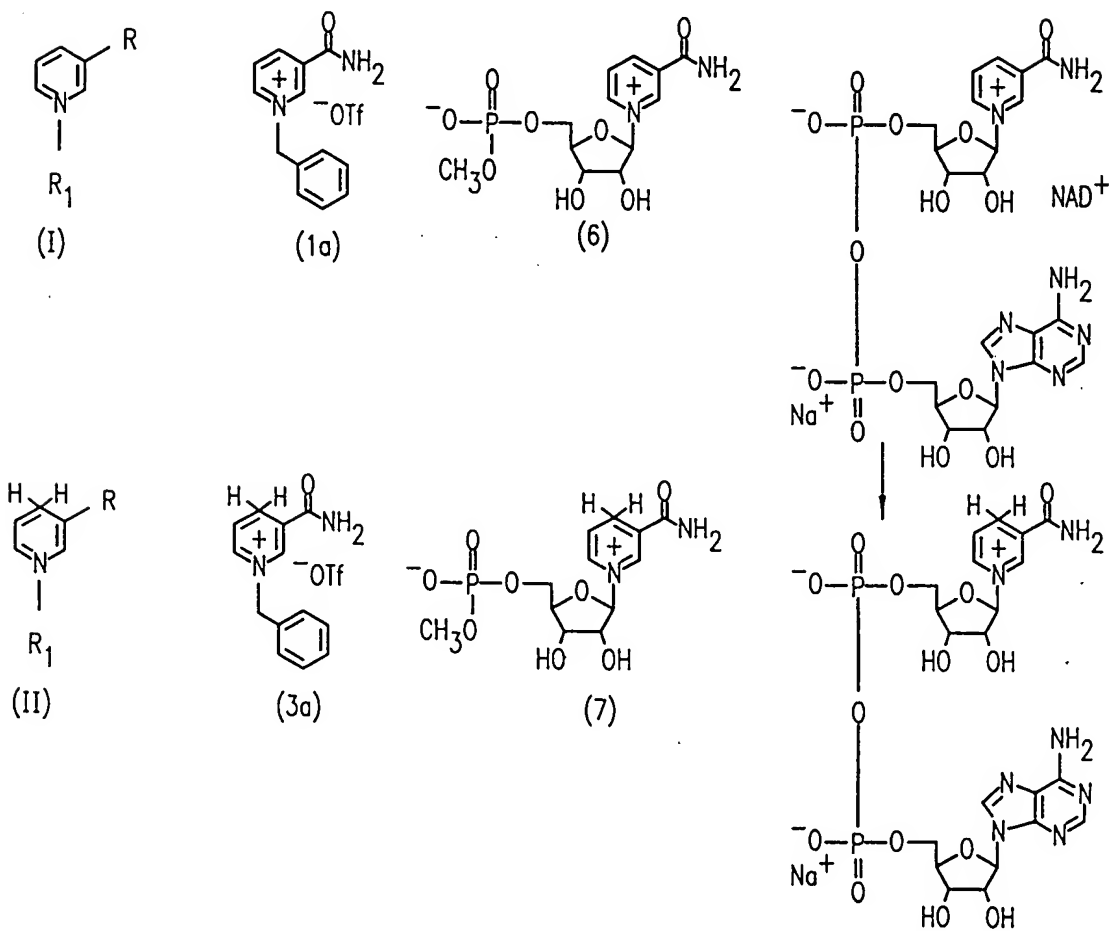
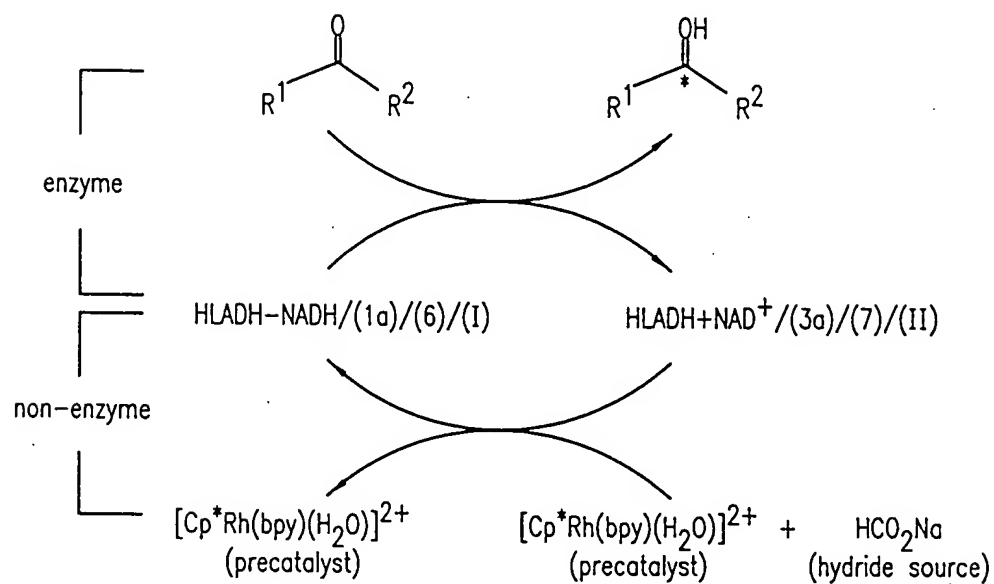
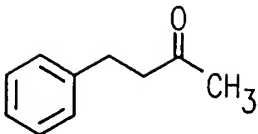
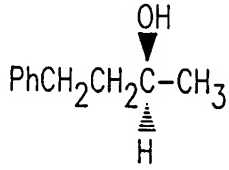
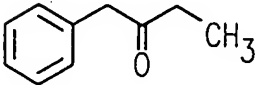
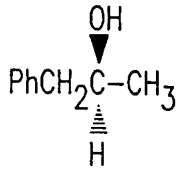
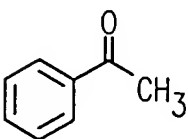
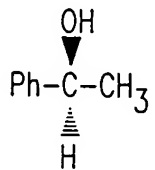
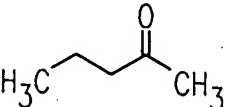
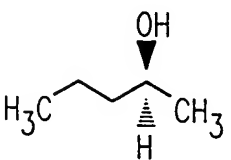


FIG. 5

Mimic NADH Models in Biocatalysis
Tandem Cofactor Regeneration, Enzyme Recognition and
Chiral Synthesis of Alcohols



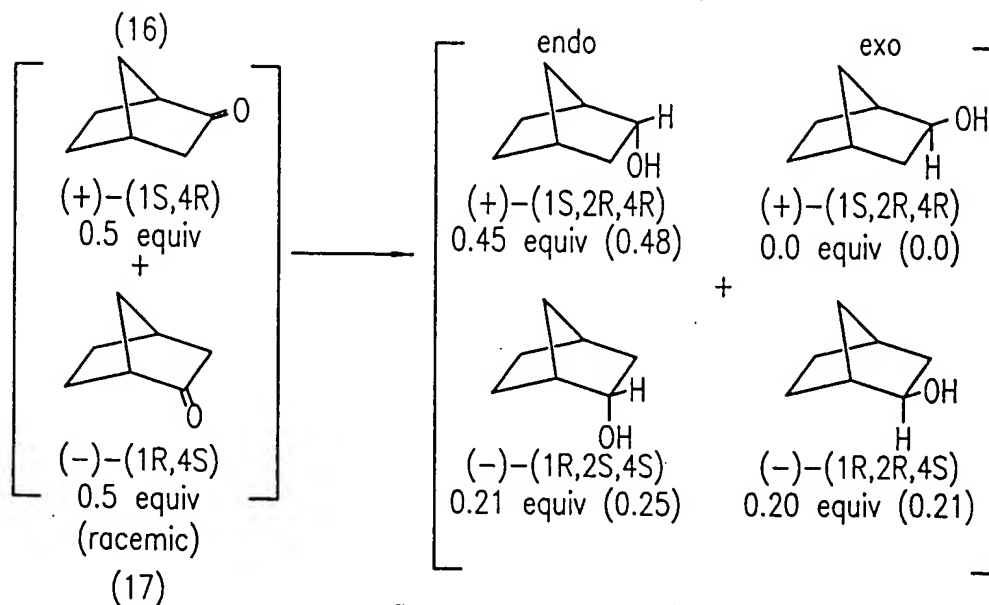
Enzymatic Reductions of Ketones with NAD^+ Models:
Turnover Frequencies and Enantiomeric Excess^{a,b}

substrate	product	% yield	TOF(d^{-1})	ee (%S)
	12 	90(91)	30(31)	93(93)
	13 	55(59)	18(19)	>99(99)
	14 	5(5)	4(4)	>96(96)
	15 	41(59)	14(20)	85(85) ^c

^aThe results from NAD^+ were given in parenthesis. ^bThe enantiomeric excess was determined by GLC with a modified β -cyclodextrin capillary column. ^cBased on derivatization with an optically pure isocyanate.

FIG. 7

Biomimetic Reduction of Norcamphor



^a The result for NAD^+ was given in parenthesis.

FIG. 8

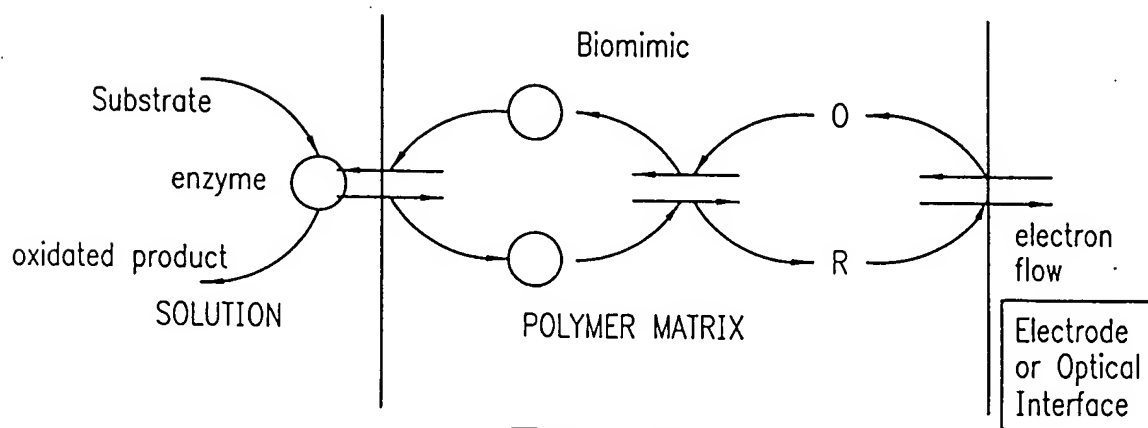


FIG. 9